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Machine Translation

REVIEW

CODE REVIEW

HISTORY

Meets Specifications

Greetings Student,
This was a good implementation and I congratulate you for passing all rubric items with this submission. It was delightful reviewing your work as it was well-thought-out. I encourage you to keep up the good work. Way to go!
Also, please take help of the resources, I shared, it will help you get better in the field.
For any queries, you can ask on Knowledge Portal as well [https://knowledge.udacity.com/]
Another cool tutorial I found: https://medium.com/@ageitgey/machine-learning-is-fun-part-5-language-translation-with-deeplearning-and-the-magic-of-sequences-2ace0acca0aa
Stay Safe

Submitted Files

✓

The following files have been submitted: `helper.py`, `machine_translation.ipynb`, `machine_translation.html`

Preprocess

✓

The function `tokenize` returns tokenized input and the tokenized class.

Great job here! Your tokenize function works prefect!

✓

The function `pad` returns padded input to the correct length.

Your pad function is correctly implemented. Well done!

Models

✓

The function `simple_model` builds a basic RNN model.

Correct implementation - to improve performance you could try increasing the number of units (try 512 units) - for this and other models.
Also decrease batch size to 256-512 - there are disadvantages to using very large batch sizes as you should know (for this and other models). You might need to increase the epochs, though.
Please checkout: https://medium.com/mini-distill/effect-of-batch-size-on-training-dynamics-21c14f7a716e

✓

The function `embed_model` builds a RNN model using word embedding.

You have also successfully implemented embed_model.

✓

The Embedding RNN is trained on the dataset. A prediction using the model on the training dataset is printed in the notebook.

Good prediction, great validation accuracy.

✓

The function `bd_model` builds a bidirectional RNN model.

It is normal that the accuracy decreases compared to the previous model.
In the next models, we will see the power of these layers when combined together.

✓

The Bidirectional RNN is trained on the dataset. A prediction using the model on the training dataset is printed in the notebook.

Good prediction, great validation accuracy.

✓

The function `model_final` builds and trains a model that incorporates embedding, and bidirectional RNN using the dataset.

Your model_final is correctly implemented.

Few things you may change in your model to improve it!

- Number of units,
- Increase the number of epochs.

Please notice that I would not perform all these changes at the same time. I would try one by one, noticing which effect has in our model accuracy

Prediction

The final model correctly predicts both sentences.

Model predicts both the sentences correctly

```
Sample 1:
il a vu un vieux camion jaune <PAD> <PAD> <PAD> <PAD> <PAD> <PAD> <PAD> <PAD> <PAD> <
PAD> <PAD> <PAD> <PAD> <PAD>
Il a vu un vieux camion jaune
Sample 2:
new jersey est parfois calme pendant l' automne et il est neigeux en avril <PAD> <PAD
> <PAD> <PAD> <PAD> <PAD> <PAD>
new jersey est parfois calme pendant l' automne et il est neigeux en avril <PAD> <PAD
> <PAD> <PAD> <PAD> <PAD> <PAD>
```

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